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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2013 Army **DATE:** February 2012

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603778A: <i>MLRS PRODUCT IMPROVEMENT PROGRAM</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	19.016	66.641	143.005	-	143.005	122.008	83.748	31.056	31.574	Continuing	Continuing
090: <i>MLRS HIMARS</i>	3.246	6.132	3.158	-	3.158	3.258	3.046	4.933	5.016	Continuing	Continuing
093: <i>Multi-Launch Rocket System (MLRS)</i>	3.561	15.883	72.503	-	72.503	43.744	28.719	1.005	1.022	Continuing	Continuing
784: <i>GUIDED MLRS</i>	2.498	2.543	10.295	-	10.295	43.890	22.520	25.118	25.536	Continuing	Continuing
78G: <i>GMLRS ALTERNATIVE WARHEADS</i>	9.711	42.083	57.049	-	57.049	31.116	29.463	-	-	Continuing	Continuing

**Note**

Change Summary Explanation: FY 2011: Adjustments made for Congressional marks, rescissions, and inflation. FY 2013: Funds used to develop improved armored cab for crew protection and blast protection for MLRS (093); program re-alignment, a successful Milestone B, and Engineering and Manufacturing Development (EMD) contract award in FY12 for GMLRS AW (78G); and other inflation adjustments.

**A. Mission Description and Budget Item Justification**

The M142 High Mobility Artillery Rocket System (HIMARS) is a full spectrum, combat proven, all weather, 24/7 lethal and responsive, precision strike weapon system that fully supports more deployable, affordable and lethal, Brigade Combat Teams, Fires Brigades, Modular Forces, and Joint Expeditionary Forces. The HIMARS launcher is a C-130 transportable, wheeled, indirect fire, rocket/missile launcher capable of firing all rockets and missiles in the current and future Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM) and Army Tactical Missile System (ATACMS) Family of Munitions (AFOM) engaging targets with precision out to ranges of 300 kilometers. HIMARS satisfies the Army's digitization requirements by interfacing with the Advanced Field Artillery Tactical Data System (AFATDS) fire support command and control system. The HIMARS product improvement program provides funding for research, development, and integration efforts necessary for sustainment, obsolescence mitigation, reliability improvements, incorporation of advanced automotive, armor, armament and system hardware and software technologies, and decreasing the logistics footprint. This effort includes performing technical assessments, concept studies, and risk reduction efforts for incorporation of future requirements. The HIMARS product improvement program maintains compliance with Intra-Army Interoperability and Digital Communications. HIMARS has been deployed to Operation Iraqi Freedom (OIF) and is still supporting Operation Enduring Freedom (OEF) with great success by both US Army and Marine Corps units.

MLRS is a full spectrum, combat proven, all weather, 24/7 lethal and responsive, Precision Strike weapon system that is organic/assigned to Fires Brigades supporting Brigade Combat Teams. The MLRS launcher provides critical missile precision strike, operational shaping fires, counterfire, and close support destructive and suppressive fires. The launcher is complimented by the MFOM to include the Guided Multiple Launch Rocket System (GMLRS), and the AFOM, capable of engaging targets up to a range of 300 kilometers. The MLRS product improvement program provides funding for research, development, and integration efforts to the MLRS necessary for sustainment, obsolescence mitigation, reliability improvements, incorporation of advanced automotive, armor, armament and system hardware and software technologies, and decreasing the logistics footprint. This effort includes performing technical assessments, concept studies, and risk reduction efforts for

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army			DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0603778A: MLRS PRODUCT IMPROVEMENT PROGRAM				
incorporation of future requirements. The MLRS product improvement program maintains compliance with Intra-Army Interoperability and Digital Communications via Joint Variable Message Format.						
GMLRS munitions are the Army's primary organic Joint Expeditionary, all-weather, all-terrain, 24/7, tactical precision guided rockets employed by modular Fires Brigades supporting Brigade Combat Teams, Divisions, Joint Special Operations Force, Joint Force Combatant Commanders, and is also a key component of the Marine Corps Future Fighting Effort. GMLRS is the primary munitions for units fielded with the HIMARS and MLRS M270A1 rocket and missile launcher platforms. GMLRS provides close, medium, and long range precision and area fires to destroy, suppress, and shape threat forces and protect friendly forces against the following: cannon, mortar, rocket and missile artillery, light materiel and armor, personnel, command and control, and air defense surface targets. GMLRS integrates guidance and control package and an improved rocket motor achieving greater range and precision accuracy requiring fewer rockets to defeat targets, thereby reducing the logistics burden. The two fielded variants are GMLRS with Dual Purpose Improved Conventional Munitions (DPICM /Increment 1) and GMLRS Unitary (U/Increment 2), a 200-pound class high explosive warhead. The GMLRS Unitary is a modification to the GMLRS DPICM integrating a multi-mode fuze and high explosive warhead making it an all-weather, low collateral damage, precision strike rocket. This modification expands the MLRS target set into urban and complex environments by adding, point, proximity and delay fuzing modes, and supports Troops in Contact (TIC) scenarios. A third variant of GMLRS, the Alternative Warhead (AW/Increment 3) has completed Technology Development (TD) with a successful Milestone B and will enter Engineering and Manufacturing Development in FY12, with the Production and Deployment beginning in 2QFY15. The GMLRS AW is being developed to replace DPICM and meet requirements outlined in a 25 JUN 2008 DoD Cluster Munitions Policy, which requires all cluster munitions by 2019 to produce less than 1% Unexploded Ordinance on the battlefield. As of FY10, the AW Program has been managed and funded under project code, 78G. To date, over 2,121 GMLRS rockets have been fired in support of Overseas Contingency Operations (OCO) by the Army						
B. Program Change Summary (\$ in Millions)		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget		51.619	66.641	85.162	-	85.162
Current President's Budget		19.016	66.641	143.005	-	143.005
Total Adjustments		-32.603	-	57.843	-	57.843
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-			
• Congressional Rescissions		-	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-0.754	-			
• Adjustments to Budget Years		-	-	57.843	-	57.843
• Other Adjustments 1		-31.849	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0603778A: MLRS PRODUCT IMPROVEMENT PROGRAM				PROJECT 090: MLRS HIMARS			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
090: MLRS HIMARS	3.246	6.132	3.158	-	3.158	3.258	3.046	4.933	5.016	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The M142 High Mobility Artillery Rocket System (HIMARS) is a full spectrum, combat proven, all weather, 24/7 lethal and responsive, precision strike weapon system that fully supports more deployable, affordable and lethal, Brigade Combat Teams, Fires Brigades, Modular Forces, and Joint Expeditionary Forces. The HIMARS launcher is a C-130 transportable, wheeled, indirect fire, rocket/missile launcher capable of firing all rockets and missiles in the current and future Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM) and Army Tactical Missile System (ATACMS) Family of Munitions (AFOM) engaging targets with precision out to ranges of 300 kilometers. HIMARS satisfies the Army's digitization requirements by interfacing with the Advanced Field Artillery Tactical Data System (AFATDS) fire support command and control system. The HIMARS product improvement program provides funding for research, development, and integration efforts necessary for sustainment, obsolescence mitigation, reliability improvements, incorporation of advanced automotive, armor, armament and system hardware and software technologies, and decreasing the logistics footprint. This effort includes performing technical assessments, concept studies, and risk reduction efforts for incorporation of future requirements. The HIMARS product improvement program maintains compliance with Intra-Army Interoperability and Digital Communications. HIMARS has been deployed to Operation Iraqi Freedom (OIF) and is still supporting Operation Enduring Freedom (OEF) with great success by both US Army and Marine Corps units.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>
<b>Title:</b> MLRS Production Improvement Program-HIMARS	3.246	6.132	3.158	-	3.158
<b>Articles:</b>	0	0			
<b>Description:</b> Continue system design and Production Qualification Testing, conduct Functional Configuration Audit, and develop Integrated Logistics Products; integrate and test Horizontal Technology Insertion (HTI) upgrades including Increased Crew Protection Cab, Enhanced Command and Control, Improved Initialization, Hardware and Software Obsolescence Mitigation, Tactical Fire Control, Embedded Training, Launcher Loader Module electric drive, Diagnostics/Prognostics, Alternate Coupling, Situational Awareness, Long Range Communication and future munition integration. Perform technical assessments, concept studies, cost reduction, risk reduction, field issue resolution and required documentation.					
<b>FY 2011 Accomplishments:</b> Complete testing and integration efforts for Long Range Communications, Driver Vision Enhancement, Blue Force Tracking and Fire Control Display. Effort will be required to maintain C4I/Interoperability certification and Network Interoperability certification. Technical assessments and concept studies in the areas of automotive					

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APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development			R-1 ITEM NOMENCLATURE PE 0603778A: MLRS PRODUCT IMPROVEMENT PROGRAM			PROJECT 090: MLRS HIMARS					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
and hardware/software technologies and improved transportability will be conducted to support evolving mission requirements, planning for technology insertion and continued obsolescence mitigation.											
FY 2012 Plans: The focus of FY2012 program is execution of development activities for additional improved crew protection against emerging threats and enhancements to communications and battle command. Continued effort will be required to maintain C4I/Interoperability certification and Network Interoperability certification. Technical assessments and concept studies in the areas of automotive and hardware/software technologies and improved transportability will be conducted to support evolving mission requirements, planning for technology insertion and continued obsolescence mitigation.											
FY 2013 Base Plans: The focus of the FY2013 program is execution of enhancements to the Fire Control System and associated trainer updates as well as communications and battle command systems. Continued effort will be required to maintain C4I/Interoperability certification and Network Interoperability certification. Technical assessments and concept studies in the areas of automotive and hardware/software technologies and improved transportability will be conducted to support evolving mission requirements, planning for technology insertion and continued obsolescence mitigation.											
Accomplishments/Planned Programs Subtotals							3.246	6.132	3.158	-	3.158
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• C03000000: HIMARS Launcher	211.517	31.674	12.051		12.051					Continuing	Continuing
• C67501000: HIMARS	39.371	11.670	6.068		6.068		6.073	6.318	6.335	Continuing	Continuing
Modifications											
• CA028900: HIMARS	1.856									0.000	1.856
Modifications: Initial Spares											
• CA028800: Initial Spares, HIMARS	9.706	0.937								0.000	10.643
D. Acquisition Strategy											
HIMARS follow-on Horizontal Technology Insertion efforts include Increased Crew Protection, Enhanced Command and Control, Improved Initialization, Long Range Communications, Fire Control System obsolescence mitigation and associated enhancements to training devices.											

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603778A: <i>MLRS PRODUCT</i> <i>IMPROVEMENT PROGRAM</i>	<b>PROJECT</b> 090: <i>MLRS HIMARS</i>

**E. Performance Metrics**

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army											DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0603778A: MLRS PRODUCT IMPROVEMENT PROGRAM				PROJECT 090: MLRS HIMARS					
Management Services (\$ in Millions)					FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Government Program Management	Various	PFRMS Project Office:Redstone Arsenal, Alabama	9.271	0.199		0.102		-		0.102	Continuing	Continuing	Continuing	
Subtotal			9.271	0.199		0.102		-		0.102				
Remarks PFRMS - Precision Fires Rocket and Missile Systems														
Product Development (\$ in Millions)					FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Battle Command	SS/CPFF	CECOM, PEO STRI, AMRDEC, Techrizon, LMMFC:Various	15.741	5.075		2.418		-		2.418	Continuing	Continuing	Continuing	
Other Government Agencies (OGA)	Various	AMCOM, GSA, RSA:Various	17.565	0.337		0.206		-		0.206	Continuing	Continuing	Continuing	
Subtotal			33.306	5.412		2.624		-		2.624				
Remarks SS - Sole Source; CPFF - Cost Plus Fixed Fee; CECOM - US Army Communication Electronics Command; PEO STRI - Program Executive Office Simulation Training and Instrument; AMRDEC - Aviation and Missile Research Development and Engineering Center; LMMFC - Lockheed Martin Missile and Fire Control; AMCOM - Aviation & Missile Command; GSA - General Services Administration; RSA - Redstone Arsenal Alabama														
Support (\$ in Millions)					FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Support Contract	C/CPFF	Camber Research, S3, TMI:Various	3.833	0.311		0.158		-		0.158	Continuing	Continuing	Continuing	
Subtotal			3.833	0.311		0.158		-		0.158				

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<b>Support (\$ in Millions)</b>				<b>FY 2012</b>		<b>FY 2013 Base</b>		<b>FY 2013 OCO</b>		<b>FY 2013 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Remarks</b> S3 - Systems Studies Simulation, Inc., TMI - Tec Masters Inc													

  

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2012</b>		<b>FY 2013 Base</b>		<b>FY 2013 OCO</b>		<b>FY 2013 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Test Support	Various	Fort Hood Texas, ATEC, APG MD, WSMR, RTTC RSA.:Various	43.567	0.210		0.274		-		0.274	Continuing	Continuing	Continuing
<b>Subtotal</b>			43.567	0.210		0.274		-		0.274			

  

<b>Remarks</b> ATEC - US Army Test and Evaluation Command; APG MD - Aberdeen Proving Grounds, Maryland; WSMR - White Sands Missile Range; RTTC RSA - Redstone Technical Test Center, Redstone Arsenal, Alabama													
			<b>Total Prior Years Cost</b>	<b>FY 2012</b>		<b>FY 2013 Base</b>		<b>FY 2013 OCO</b>		<b>FY 2013 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			89.977	6.132		3.158		-		3.158			
<b>Remarks</b>													

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APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0603778A: MLRS PRODUCT IMPROVEMENT PROGRAM				PROJECT 093: Multi-Launch Rocket System (MLRS)			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
093: Multi-Launch Rocket System (MLRS)	3.561	15.883	72.503	-	72.503	43.744	28.719	1.005	1.022	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Multiple Launch Rocket and Missile System (MLRS) is a full spectrum, combat proven, all weather, 24/7 lethal and responsive, Precision Strike weapon system that is organic/assigned to Fires Brigades supporting Brigade Combat Teams. The MLRS launcher provides critical missile precision strike, operational shaping fires, counterfire, and close support destructive and suppressive fires. The launcher is complimented by the MLRS Family of Munitions (MFOM) to include the Guided Multiple Launch Rocket System (GMLRS), and the Army Tactical Missile System (ATACMS) Family of Munitions (AFOM), capable of engaging targets up to a range of 300 kilometers. The MLRS product improvement program provides funding for research, development, and integration efforts to the MLRS necessary for sustainment, obsolescence mitigation, reliability improvements, incorporation of advanced automotive armament, and system hardware and software technologies, and decreases the logistics footprint. This effort includes performing technical assessments, concept studies, and risk reduction efforts for incorporation of future requirements. The MLRS product improvement program maintains compliance with Intra-Army Interoperability and Digital Communications via Joint Variable Message Format.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>
<b>Title:</b> MLRS Product Improvement Program	3.561	15.883	72.503	-	72.503
<b>Articles:</b>	0	0			
<p><b>Description:</b> The MLRS product improvement program ensures compliance as defined in the Department of Defense (DoD) Information Technical Standards. Funding is provided to several Government Agencies/Laboratories each Fiscal Year in support of this program. Support efforts also include Enhanced Command and Control (C2), Interoperability Certifications, obsolescence mitigation, increased crew protection, automotive updates and hardware/software enhancements, and Information Assurance compliance. All efforts are directed toward preservation of platform viability and readiness to accept technology insertion as capability enhancements and obsolescence mitigations are developed.</p> <p>Perform Command, Control, Communications, Computers, and Intelligence (C4I)/Interoperability Certification Tests, Improved Operational Timeline, and Conduct Network Interoperability Testing/Certification. Perform technical assessments, concept studies, obsolescence mitigation, crew protection, automotive and hardware/software enhancements, and risk reduction.</p> <p><b>FY 2011 Accomplishments:</b></p>					



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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>
Continue concept studies supporting product improvement program - including prototyping of new fire control system hardware/software architecture. Complete analyses supporting definition of requirements for improved crew protection cab. Perform Technical assessments and concept studies in the areas of automotive and hardware/software technologies, to support evolving mission requirements, planning for technology insertion, and continued obsolescence mitigation.  <b><i>FY 2012 Plans:</i></b> Execute development activities to improve crew protection with a new cab and enhanced chassis blast protection that includes design activities with formal PDR. Maintain C4I/Interoperability certification and Network Interoperability certification. Conduct technical assessments and concept studies in the areas of automotive and hardware/software technologies to support evolving mission requirements, planning for technology insertion, and continued obsolescence mitigation.  <b><i>FY 2013 Base Plans:</i></b> Increase Crew Protection and Fire Control System Update. Continue execution of development of improved armored cab for crew protection and blast protection including formal Critical Design Review (CDR). Fire Control System Update(FCS-U); Initiate development activities to update the fire control system to mitigate obsolescence. Fire control system update development will leverage previous studies conducted in the areas of hardware and software technologies that supported evolving mission requirements, planning for technology insertion, and continued obsolescence mitigation. Preliminary design activities, a formal PDR, and development activities leading to CDR will occur in FY13. Three year FCS-U Development begins 2QFY13. Production begins 4QFY15, with first delivery and install in 3QFY16. Additional activities include the continuation to maintain C4I/Interoperability certification and Network Interoperability certification.					
<b>Accomplishments/Planned Programs Subtotals</b>	3.561	15.883	72.503	-	72.503

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• C67500000: <i>MLRS Mods</i>	8.217	8.236	2.466		2.466		86.333	62.024	10.705	Continuing	Continuing
• CA0265000: <i>MLRS Mod Initial Spares (CA0265)</i>	1.014	1.031	1.064		1.064		1.087	1.076	1.095	Continuing	Continuing

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<p><b><u>D. Acquisition Strategy</u></b></p> <p>The MLRS product improvement program conducts concept studies to support obsolescence mitigation, automotive updates, and hardware/software enhancements. Development efforts underway include Enhanced C2 and efforts supporting Interoperability Certifications, Information Assurance compliance, and increased crew protection (Improved Armored Cab). The Improved Armored Cab effort, beginning in FY 12, fulfills a M270A1 system requirement that incorporates the same level of crew protection capability as the HIMARS Increased Crew Protection cab. A contract will be awarded following a competitive bid process (full and open competition) to ensure best value for the Government. The Fire Control System Update is driven by the need to mitigate obsolete electronic components that are being sustained through life of type purchases. These purchased components will be exhausted, thus requiring an update to the design. This update to the design will preserve current capability of firing the complete set of MLRS Family of Munitions per the Operational Requirements Document (ORD). Efforts preparing for the Fire Control System Update have been accomplished and the FCS-U contractor work will begin in FY13. Efforts preparing for the Fire Control System Update have been accomplished and the FCS-U contractor work will begin in FY13.</p> <p><b><u>E. Performance Metrics</u></b></p> <p>Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0603778A: MLRS PRODUCT IMPROVEMENT PROGRAM				PROJECT 093: Multi-Launch Rocket System (MLRS)					
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	Various	PFRMS Proj Ofc, Redstone Arsenal, Alabama:Redstone Arsenal, Alabama	6.241	0.340		1.143		-		1.143	Continuing	Continuing	Continuing
Subtotal			6.241	0.340		1.143		-		1.143			
Remarks PFRMS - Precision Fires Rocket and Missile Systems													
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Government Agencies OGA	MIPR	FT SILL OK, CECOM- NJ AMRDEC-RSA AL,:various	15.745	0.500		-		-		-	Continuing	Continuing	Continuing
MLRS Improved Armored Cab	C/CPFF	TBD:TBD	-	14.436		12.689		-		12.689	Continuing	Continuing	Continuing
MLRS Fire Control System Development	TBD	TBD:TBD	-	-		54.571		-		54.571	Continuing	Continuing	Continuing
Subtotal			15.745	14.936		67.260		-		67.260			
Remarks C/CPFF - Competitive/Cost-Plus Fixed-Fee LMMFC-D - Lockheed Martin Missile and Fire Control-Dallas TBD - To Be Determined AMRDEC - United States Army Research, Development, and Engineering Command RSA AL - Redstone Arsenal, Alabama Ft Sill OK - Oklahoma CECOM - United States Army Communication - Electronics Command													
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Contract	Various	Multiple:Multiple	3.553	0.457		-		-		-	Continuing	Continuing	Continuing

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2013 Army										<b>DATE:</b> February 2012			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603778A: <i>MLRS PRODUCT IMPROVEMENT PROGRAM</i>				<b>PROJECT</b> 093: <i>Multi-Launch Rocket System (MLRS)</i>					

  

<b>Support (\$ in Millions)</b>				<b>FY 2012</b>		<b>FY 2013 Base</b>		<b>FY 2013 OCO</b>		<b>FY 2013 Total</b>				
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>		<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Subtotal</b>			3.553	0.457		-		-		-				

  

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2012</b>		<b>FY 2013 Base</b>		<b>FY 2013 OCO</b>		<b>FY 2013 Total</b>				
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>		<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Test Support, Joint Interoperability Test Certificate	MIPR	CTSF, Ft. Hood:Texas	2.237	0.150		4.100		-		4.100		Continuing	Continuing	Continuing
<b>Subtotal</b>			2.237	0.150		4.100		-		4.100				

  

<b>Remarks</b> CTSF - Central Test Support Facility WSMR - White Sands Missile Range MIPR - Military Interdepartmental Purchase Request													
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			<b>Total Prior Years Cost</b>	<b>FY 2012</b>		<b>FY 2013 Base</b>		<b>FY 2013 OCO</b>		<b>FY 2013 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			27.776	15.883		72.503		-		72.503			

  

<b>Remarks</b>													
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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2013 Army			<b>DATE:</b> February 2012		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603778A: <i>MLRS PRODUCT IMPROVEMENT PROGRAM</i>		<b>PROJECT</b> 093: <i>Multi-Launch Rocket System (MLRS)</i>	

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Improved Armored Cab Development Award 2Q FY12; Testing 1-4Q FY14																												
Fire Control System Upgrade Development - Award 2Q FY13; Testing 1-4Q FY15																												
Improved Armored Cab Production - 1st Delivery/Install 2Q FY15																												
Fire Control System Upgrade Production - Award 2Q FY15; 1st Delivery/install 2Q																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2013 Army			<b>DATE:</b> February 2012
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603778A: <i>MLRS PRODUCT IMPROVEMENT PROGRAM</i>	<b>PROJECT</b> 093: <i>Multi-Launch Rocket System (MLRS)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Improved Armored Cab Development Award 2Q FY12; Testing 1-4Q FY14	1	2012	4	2014
Fire Control System Upgrade Development - Award 2Q FY13; Testing 1-4Q FY15	2	2013	1	2016
Improved Armored Cab Production - 1st Delivery/Install 2Q FY15	2	2015	4	2017
Fire Control System Upgrade Production - Award 2Q FY15; 1st Delivery/install 2Q	2	2015	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0603778A: MLRS PRODUCT IMPROVEMENT PROGRAM				PROJECT 784: GUIDED MLRS			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
784: GUIDED MLRS	2.498	2.543	10.295	-	10.295	43.890	22.520	25.118	25.536	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
The Guided Multiple Launch Rocket System (GMLRS) Unitary (U/Increment 2) is the only variant of the Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM) currently in production. This rocket integrates a 200-pound class high explosive warhead with multi-mode fuzing options (proximity, point detonate, and delay); expanding the MLRS target set into urban, complex, pre-planned and Troops in Contact (TIC) scenarios by delivering a low collateral damage, precision strike rocket. GMLRS Unitary is relevant to current operations with over 2,121 rockets fired in support of Overseas Contingency Operations (OCO) by the Army, Marine Corps and United Kingdom. The program office continues to explore opportunities to enhance GMLRS technology. Improvements will provide the following, per Joint Capability Integration and Development System (JCIDS) requirements: (1) enhanced operational capability and flexibility across the target set, (2) potential cost savings across weapon system life cycle through obsolescence initiatives, (3) test equipment commonality and reduced user effort for sustainment operations with enhancements to the MLRS Common Test Equipment (MCTE), (4) future Insensitive Munitions (IM) technology studies and insertion, and (5) optimized flight performance and increased survivability for friendly forces and non-combatants through scalable effects.											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Assess and improve GMLRS rockets.  Articles:  Description: Funding is provided for the following effort  FY 2011 Accomplishments: Continue to assess GMLRS rocket design and seek improvements in reliability as necessary.  FY 2012 Plans: Continue to assess and improve GMLRS rockets.  FY 2013 Base Plans: Continue to seek improvements in rocket reliability, collateral damage, and effectiveness.							1.650	1.526	1.549	-	1.549
							0	0			
Title: Conduct development engineering for IM program.  Articles:  Description: Funding is provided for the following effort  FY 2012 Plans:							-	0.381	7.792	-	7.792
								0			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development			R-1 ITEM NOMENCLATURE PE 0603778A: MLRS PRODUCT IMPROVEMENT PROGRAM			PROJECT 784: GUIDED MLRS					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Additional IM improvements investigation.											
FY 2013 Base Plans: Continue to procure and qualify IM improvements to satisfy JCIDS requirements.											
Title: Investigate obsolescence/cost reduction opportunities/second source suppliers.							0.848	0.636	0.954	-	0.954
Articles:							0	0			
Description: Funding is provided for the following effort											
FY 2011 Accomplishments: Conduct development engineering; perform integration and test of multi-mode fuzes and potential alternate warhead solutions while monitoring the industry to mitigate obsolescence and investigate cost reductions through alternate sources of procurement.											
FY 2012 Plans: Continue the development engineering; performing integration of multi-mode fuzes and potential alternate warhead solutions while assessing the industry to mitigate obsolescence and investigate cost reductions through alternate sources of procurement.											
FY 2013 Base Plans: Continue to design and integrate enhanced operational capability and flexibility across the target set, as well as investigate obsolescence issues and cost reduction initiatives.											
Accomplishments/Planned Programs Subtotals							2.498	2.543	10.295	-	10.295
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• GMLRS: GMLRS	264.548	333.167	218.679	20.553	239.232		252.057	277.660	362.965	Continuing	Continuing
D. Acquisition Strategy											
Project 784 is intended to support, investigate, and develop alternative material changes to improve the GMLRS family of munitions as they are identified by the material developer or combat developer. This project also supports IM activities to improve the overall posture of the system all the way down to component level. Future initiatives could include a missile modernization program to extend the shelf life of the GMLRS rocket.											



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2013 Army		<b>DATE:</b> February 2012
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603778A: <i>MLRS PRODUCT</i> <i>IMPROVEMENT PROGRAM</i>	<b>PROJECT</b> 784: <i>GUIDED MLRS</i>

**E. Performance Metrics**

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0603778A: MLRS PRODUCT IMPROVEMENT PROGRAM				PROJECT 784: GUIDED MLRS					
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	TBD	PFRMS Project Office,:RSA	27.696	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			27.696	-		-		-		-			
Remarks TBD-To Be Determined; Cont.-Continuing; PFRMS - Precision Fires Rocket and Missile Systems; RSA-Redstone Arsenal, Alabama													
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Unitary Contracts/Multiple	SS/CPFF	LMMFCS:Dallas, TX	276.027	2.282		9.862		-		9.862	Continuing	Continuing	Continuing
Other Government Agencies	TBD	AMCOM/AMRDEC,:RSA	77.729	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			353.756	2.282		9.862		-		9.862			
Remarks SS/CPFF-Sole Source/Cost Plus Fixed Fee; Cont.-Continuing; LMMFCS - Lockheed Martin Missile and Fire Control System; TX - Texas; AMCOM-Aviation and Missile Command; TBD-To Be Determined; AMRDEC - U.S. Army Research, Development and Engineering Command; RSA - Redstone Arsenal, Alabama													
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Contract	C/CPFF	Camber Research/S3/TMI,:Alabama	20.941	0.261		0.265		-		0.265	Continuing	Continuing	Continuing
Subtotal			20.941	0.261		0.265		-		0.265			
Remarks C/CPFF-Cost/Cost Plus Fixed Fee; Cont.-Continuing; S3-Systems Studies Simulation, Inc.; TMI-Tec Masters, Inc.													

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2013 Army											<b>DATE:</b> February 2012		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603778A: <i>MLRS PRODUCT IMPROVEMENT PROGRAM</i>				<b>PROJECT</b> 784: <i>GUIDED MLRS</i>					

  

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2012</b>		<b>FY 2013 Base</b>		<b>FY 2013 OCO</b>		<b>FY 2013 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Test Support	TBD	WSMR, NM	107.957	-		0.168		-		0.168	Continuing	Continuing	Continuing
<b>Subtotal</b>			107.957	-		0.168		-		0.168			

  

**Remarks**  
TBD-To Be Determined; Cont.-Continuing; WSMR, NM - White Sands Missile Range, New Mexico

  

	<b>Total Prior Years Cost</b>	<b>FY 2012</b>		<b>FY 2013 Base</b>		<b>FY 2013 OCO</b>		<b>FY 2013 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>	510.350	2.543		10.295		-		10.295			

  

**Remarks**

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0603778A: MLRS PRODUCT IMPROVEMENT PROGRAM				PROJECT 78G: GMLRS ALTERNATIVE WARHEADS			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
78G: GMLRS ALTERNATIVE WARHEADS	9.711	42.083	57.049	-	57.049	31.116	29.463	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**

Not applicable at this time.

**A. Mission Description and Budget Item Justification**

Guided Multiple Launch Rocket System (GMLRS) Alternative Warhead (AW/Increment 3) is being developed to replace the GMLRS Dual Purpose Improved Conventional Munitions (DPICM/Increment 1) and fill a Warfighting Capability Gap left by the future removal of current cluster munitions from the battlefield, as outlined in a 25 JUN 2008 Department of Defense (DoD) Cluster Munitions Policy. This effort includes: development, test activities to evaluate payload performance against validated models/simulations, and integration. GMLRS AW TD Phase has been completed with a successful Milestone B. The Army will enter into Engineering and Manufacturing Development (EMD) in FY12. Production and Deployment is scheduled for FY15 with Initial Operational Capability and the Full Rate Production Decision Review scheduled for FY17. Improvements will provide the following, per Joint Capability Integration and Development System (JCIDS) requirements: (1) enhanced operational capability and flexibility across the target set, (2) potential cost savings across weapon system life cycle through obsolescence initiatives, (3) test equipment commonality and reduced user effort for sustainment operations with enhancements to the Multiple Launch Rocket System (MLRS) Common Test Equipment (MCTE), and (4) future Insensitive Munitions (IM) technology studies and insertion.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>
<b>Title:</b> Conduct Development Engineering, Design Component Testing, and Performance Analysis.	2.438	21.587	26.519	-	26.519
<b>Articles:</b>	0	0			
<b>Description:</b> Funding is provided for the following effort					
<b>FY 2011 Accomplishments:</b> Preliminary Design Review (PDR) in support of MS B.					
<b>FY 2012 Plans:</b> Design optimization and analysis, System Readiness Review (SRR) and Initial Design Review (IDR) in EMD Phase.					
<b>FY 2013 Base Plans:</b>					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0603778A: MLRS PRODUCT IMPROVEMENT PROGRAM		PROJECT 78G: GMLRS ALTERNATIVE WARHEADS		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Perform design optimization trade studies.						
<b>Title:</b> Perform technical assessments and concept studies.		1.466	6.214	14.271	-	14.271
<b>Articles:</b>		0	0			
<b>Description:</b> Funding is provided for the following effort						
<b>FY 2011 Accomplishments:</b> Complete Analysis of Alternatives for Milestone B/Technical Assessments/Model/Simulation.						
<b>FY 2012 Plans:</b> Evaluate SRR and IDR in EMD.						
<b>FY 2013 Base Plans:</b> Perform system integration trade studies.						
<b>Title:</b> Prepare Milestone Documentation, Risk Reduction, and Program Reviews.		1.383	1.657	2.486	-	2.486
<b>Articles:</b>		0	0			
<b>Description:</b> Funding is provided for the following effort						
<b>FY 2011 Accomplishments:</b> Capabilities Development Document (CDD), Statutory/Regulatory documentation support for MS B.						
<b>FY 2012 Plans:</b> Design optimization and analysis in EMD Phase.						
<b>FY 2013 Base Plans:</b> Critical Design Review (CDR) support.						
<b>Title:</b> Conduct System Test and Evaluation Activities.		4.424	12.625	13.773	-	13.773
<b>Articles:</b>		0	0			
<b>Description:</b> Funding is provided for the following effort						
<b>FY 2011 Accomplishments:</b> Test flight data analysis.						
<b>FY 2012 Plans:</b>						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2013 Army				<b>DATE:</b> February 2012	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603778A: <i>MLRS PRODUCT IMPROVEMENT PROGRAM</i>		<b>PROJECT</b> 78G: <i>GMLRS ALTERNATIVE WARHEADS</i>	

  

<b><u>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</u></b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>
Test planning in support of MS C.					
<b><i>FY 2013 Base Plans:</i></b> Engineering Development Testing (EDT), ground testing, and system IM testing.					
<b>Accomplishments/Planned Programs Subtotals</b>	9.711	42.083	57.049	-	57.049

  

**C. Other Program Funding Summary (\$ in Millions)**  
N/A

**D. Acquisition Strategy**  
The GMLRS AW rocket is a product improved version of the current GMLRS DPICM rocket. During EMD, GMLRS AW will undergo further development, integration, and testing under a Firm Fixed Price (FFP) contract.

**E. Performance Metrics**  
Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0603778A: MLRS PRODUCT IMPROVEMENT PROGRAM				PROJECT 78G: GMLRS ALTERNATIVE WARHEADS				
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	TBD	PFRMS Project Office,:RSA	3.596	4.481		3.265		-		3.265	Continuing	Continuing	Continuing
Subtotal			3.596	4.481		3.265		-		3.265			
Remarks TBD-To Be Determined; Cont.-Continuing; PFRMS-Precision Fires Rocket and Missile Systems; RSA-Redstone Arsenal, Alabama													
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AWP Contracts (Multiple)	Various	ATK (Plymouth, MN):LMMFCS (Dallas, TX), Systems Integrator	3.784	28.782		35.088		-		35.088	Continuing	Continuing	Continuing
Other Government Agencies	TBD	AMCOM/AMRDEC,:RSA	5.772	2.605		5.939		-		5.939	Continuing	Continuing	Continuing
Subtotal			9.556	31.387		41.027		-		41.027			
Remarks AWP-Alternative Warhead Program; Various-Competitive/Firm Fixed Price/Sole Source/Cost Plus Fixed Fee; TBD-To Be Determined; Cont.-Continuing; AMCOM-Army Materiel Command; AMRDEC-U.S. Army Research, Development and Engineering Command; RSA-Redstone Arsenal, Alabama; ATK-Alliant Techsystems, Inc.; MN-Minnesota; LMMFCS-Lockheed Martin Missile and Fire Control System; TX-Texas													
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Contract	C/CPFF	Camber Research/S3/TMI,:Alabama	0.829	1.044		0.227		-		0.227	Continuing	Continuing	Continuing
Subtotal			0.829	1.044		0.227		-		0.227			
Remarks C/CPFF-Competitive/Cost Plus Fixed Fee; Cont.-Continuing; S3-Systems Studies Simulation, Inc.; TMI-Tec Master, Inc.													

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2013 Army										<b>DATE:</b> February 2012			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603778A: <i>MLRS PRODUCT IMPROVEMENT PROGRAM</i>				<b>PROJECT</b> 78G: <i>GMLRS ALTERNATIVE WARHEADS</i>					

  

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2012</b>		<b>FY 2013 Base</b>		<b>FY 2013 OCO</b>		<b>FY 2013 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Test Support	TBD	WSMR, NM	6.222	5.171		12.530		-		12.530	Continuing	Continuing	0.000
<b>Subtotal</b>			6.222	5.171		12.530		-		12.530			0.000

  

<b>Remarks</b> TBD-To Be Determined; Cont.-Continuing; WSMR,NM-White Sands Missile Range, New Mexico													
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	<b>Total Prior Years Cost</b>	<b>FY 2012</b>		<b>FY 2013 Base</b>		<b>FY 2013 OCO</b>		<b>FY 2013 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>	20.203	42.083		57.049		-		57.049			

  

<b>Remarks</b>
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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2013 Army			<b>DATE:</b> February 2012		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603778A: <i>MLRS PRODUCT IMPROVEMENT PROGRAM</i>		<b>PROJECT</b> 78G: <i>GMLRS ALTERNATIVE WARHEADS</i>	

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
System PDR																												
Milestone B																												
Engineering Development Testing (EDT)																												
Critical Design Review (CDR)																												
Production Qualification Testing (PQT)																												
Milestone C																												

**UNCLASSIFIED**

<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2013 Army			<b>DATE:</b> February 2012
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603778A: <i>MLRS PRODUCT IMPROVEMENT PROGRAM</i>	<b>PROJECT</b> 78G: <i>GMLRS ALTERNATIVE WARHEADS</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
System PDR	2	2011	2	2011
Milestone B	2	2012	2	2012
Engineering Development Testing (EDT)	2	2013	4	2013
Critical Design Review (CDR)	2	2013	2	2013
Production Qualification Testing (PQT)	1	2014	4	2014
Milestone C	2	2015	2	2015